SYSTEM AND METHOD FOR PROVIDING AN INTERACTIVE DISPLAY INTERFACE FOR INFORMATION OBJECTS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority of United States provisional patent application Ser. No. 60/195,955, titled "Method and Apparatus for Providing Streaming Media in a Communication Network," filed Apr. 10, 2000. This application is related to United States patent application Ser. No._____ , titled "Interactive Display Interface for Information Objects," filed_____.

FIELD OF THE INVENTION

[0002] The present invention relates generally to interactive menu interfaces for identifying content provided via a communication system, a computer system, or other electronic equipment. More particularly, the present invention relates to a system for retrieving programming information and for generating an interactive navigation interface for displaying such programming information.

BACKGROUND OF THE INVENTION

[0003] The prior art is replete with communication and entertainment systems that provide information in different formats to many users. For example, digital cable and satellite television systems, which are now commonplace, can transmit audio and video content to a single home using hundreds of different channels. As another example, the growing popularity of the Internet has resulted in the online accessibility of music, video, and application files. The Internet itself, and the World Wide Web in particular, allows a user to access an almost unlimited number of different web pages identified by a like number of unique uniform resource locators (URLs). In addition, wireless telephones have migrated into flexible communication devices having enhanced features or functions such as web browsers, email, video games, calendar/scheduler, and media player. Indeed, in today's communication-based environment, the lines between previously distinct devices such as personal computers, televisions, video game consoles, wireless phones, personal digital assistants (PDAs), digital media players, home entertainment equipment, and home appliances are becoming increasingly blurred.

[0004] New technologies promise to bring a vast assortment of audio and video broadcasts, including movies, news programs, dramatic works, music, sports programs, talk shows, and other content. Such content may be provided from a remote location in the form of streaming media or in the form of a cable or satellite television broadcast. Many cable and satellite television companies also provide a large number of digital music channels to their subscribers; the large number of video and music channels can be overwhelming to many users. Instead of a relatively small number of traditional radio and television stations available in major metropolitan markets or via standard cable or satellite systems, users are presented with thousands of possibilities. Never before has there been such a vast selection of alternatives, with broadcasters providing every imaginable permutation for every conceivable area of interest, from mainstream popular music to the most obscure and unlikely niches.

[0005] End users of various devices often have difficulty searching, locating, viewing, and downloading suitable content due to the vast number of content files and/or content sources. For example, the large quantity of available Internet and broadcast stations presents a paradox: while users undoubtedly benefit from the unprecedented number of choices in genre and content which broadcasters provide, they cannot easily and efficiently select from among the hundreds of stations, channels, and/or entities broadcasting a given type of music, video, program, or file. In addition, users cannot identify what is interesting, relevant, or available, or determine the quality of service or other operational parameters of the available broadcasts.

[0006] Known solutions utilized by many Internet sites are based on the garden variety search engine interface. In one form of this interface, the user enters a search query (a word or a phrase) and is eventually presented with a multi-page list of hundreds or thousands of possible matches. Alternatively, the user may be shown a hierarchical list of categories, with each category serving as a higher level in the hierarchical display of relevant content. In this manner, the user can continue selecting links to navigate deeper into the hierarchy until he finds a suitable file or link.

[0007] Current solutions of cable television set-top boxes and satellite television decoders typically operate in a more primitive manner. Since most of these devices lack a keyboard, they can only display information in a hierarchical format or by showing every available station or channel in a long list. Due to the limited size and resolution of a television screen display, paging through long lists of channels can be a tedious and frustrating process. While this type of interface may arguably be considered adequate in many current environments, it is unsuitable for systems having a very large number of content providers, stations, channels, and/or web site addresses to choose from.

[0008] One prior art system is implemented as a standalone software application that resides at the end user's computing device. This system utilizes a number of icons categorized together as a planet, where the icons represent links to different web pages or files stored on the computing device. This system maintains no connectivity between the user's computing device and any real-time data maintained by a remote server. Consequently, this system is not capable of providing current programming information related to broadcast content that is available to the end user.

[0009] Accordingly, there is a need in the industry for an effective and intuitive system for locating and identifying media and other content, which may be provided by multiple information sources and service providers, via a communication network.

BRIEF SUMMARY OF THE INVENTION

[0010] The present invention provides a system for generating an interactive navigation interface for display at an end user device. In accordance with a preferred embodiment, the end user device merely finctions as a display element; the navigation interface itself is generated, maintained, and processed by one or more remote server components. The navigation interface is configured to allow a user to intuitively, effectively, and easily determine the broadcast status associated with a large number of content providers, channels, stations, web sites, or the like. The